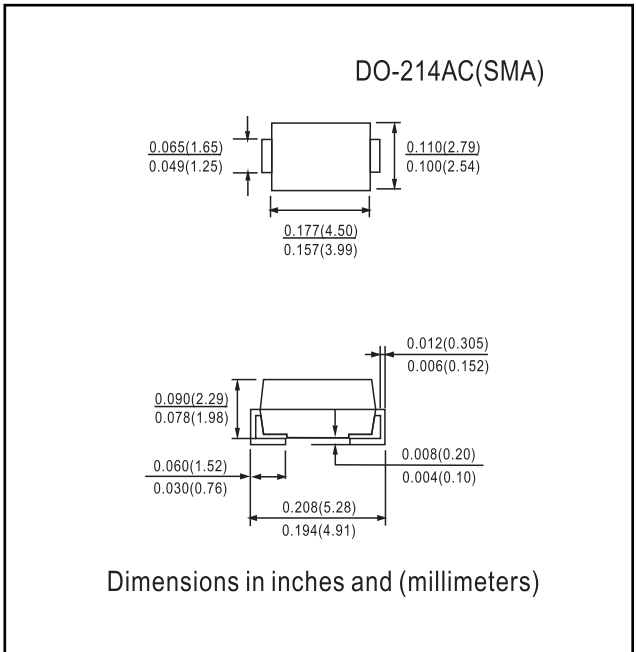




- FEATURES**
- Low profile package
 - Ideal for automated placement
 - Trench MOS Schottky technology
 - Low power losses, high efficiency
 - Low forward voltage drop
 - Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
 - Not recommended for PCB bottom side wave mounting
 - Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
 - **Halogen-free according to IEC 61249-2-21 definition**



Mechanical Data

Case: DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating
Base P/N-M3 - halogen-free, RoHS compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
M3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes the cathode end

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VSSA3L6S	UNIT
Device marking code		3L6	
Maximum repetitive peak reverse voltage	V_{RRM}	60	V
Maximum DC forward current	$I_F^{(1)}$	3.0	A
	$I_F^{(2)}$	2.5	
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I_{FSM}	80	A
Voltage rate of change (rated V_R)	dV/dt	10 000	V/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage	$I_F = 3.0\text{ A}$	$T_A = 25\text{ }^\circ\text{C}$	$V_F^{(1)}$	0.49	0.58	V
		$T_A = 125\text{ }^\circ\text{C}$		0.41	0.50	
Reverse current	$V_R = 60\text{ V}$	$T_A = 25\text{ }^\circ\text{C}$	$I_R^{(2)}$	-	1500	μ A
		$T_A = 125\text{ }^\circ\text{C}$		6.0	30	mA
Typical junction capacitance	4.0 V, 1 MHz	C_J	395	-	pF	

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)			
PARAMETER	SYMBOL	VSSA3L6S	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$	115	°C/W
	$R_{\theta JM}^{(2)}$	15	

Notes
⁽¹⁾ Free air, mounted on recommended PCB, 1 oz. pad area; thermal resistance $R_{\theta JA}$ - junction to ambient
⁽²⁾ Mounted on 10 mm x 10 mm pad areas, 1 oz. FR4 PCB; $R_{\theta JM}$ - junction to mount



RATINGS AND CHARACTERISTIC CURVES VSSA3L6S

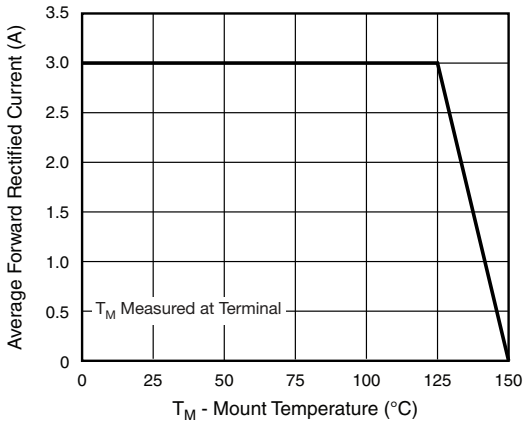


Fig. 1 - Maximum Forward Current Derating Curve

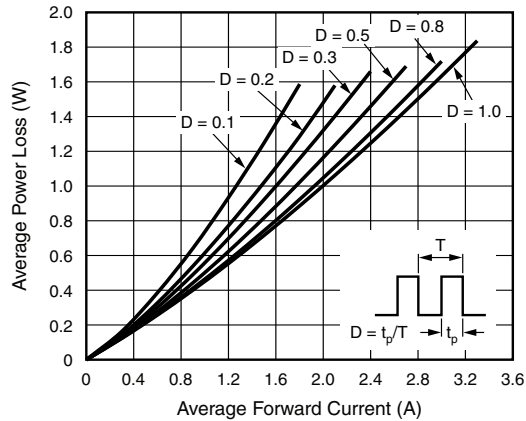


Fig. 2 - Forward Power Loss Characteristics

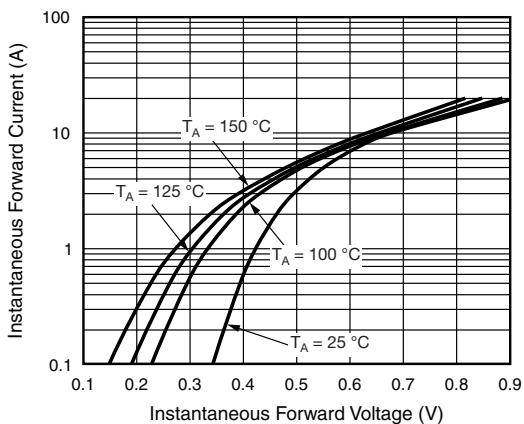


Fig. 3 - Typical Instantaneous Forward Characteristics

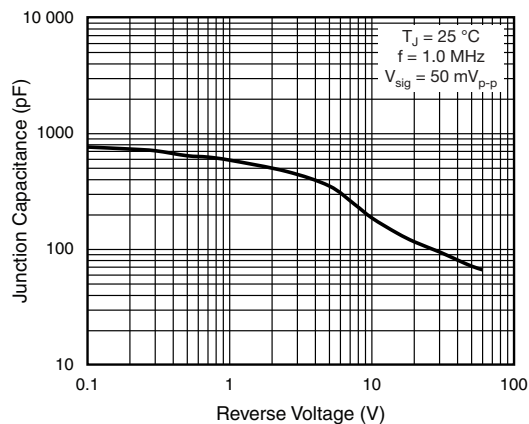


Fig. 5 - Typical Junction Capacitance

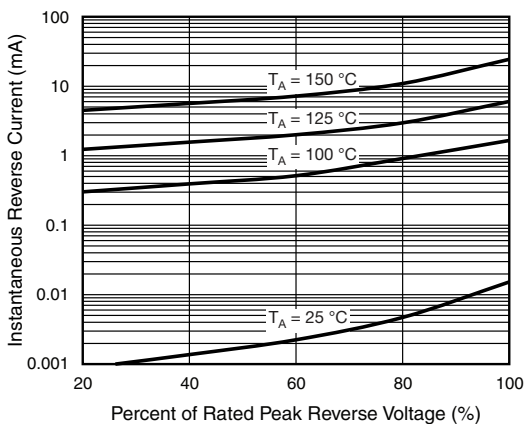


Fig. 4 - Typical Reverse Characteristics

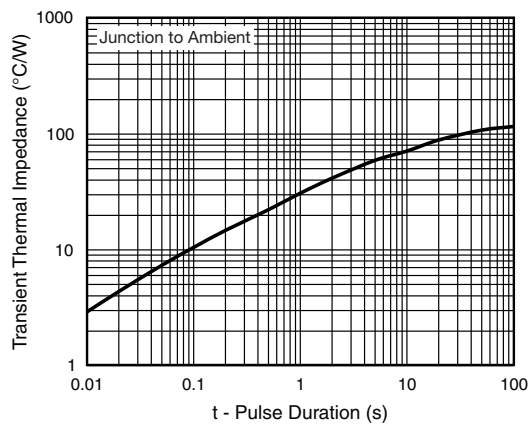


Fig. 6 - Typical Transient Thermal Impedance